

In the Drawings:

Figure 2D has been amended to include reference numeral 230. A replacement sheet, including reference numeral 230 in Figure 2D and properly labeled as a replacement sheet is submitted herewith.

REMARKS

Claims 1-11 are pending. Claim 1 and 7-11 have been amended. Reconsideration and allowance of the present application based on the following remarks are respectfully requested.

In the Drawings

The drawings were objected to for not containing reference numeral 230. Applicant has amended Figure 2D to include reference numeral 230. A replacement sheet for Figure 2D is attached herewith. Accordingly, Applicant respectfully requests reconsideration and withdrawal of this objection.

Claim Rejections Under 35 U.S.C. § 112

Claims 7-9 were rejected under 35 U.S.C. § 112, second paragraph. Applicants have amended claims 7-9 to correct the errors identified by the Examiner. Accordingly, Applicant respectfully requests reconsideration and withdrawal of this rejection.

Claim Rejections Under 35 U.S.C. § 102

Claims 1, 4, and 5 were rejected under 35 U.S.C. § 102(b) over Liu et al. (U.S. Patent No. 6,117,345). Applicant respectfully traverses this rejection.

Amended claim 1 recites, in part, a method of forming a metal line layer in a semiconductor device that includes patterning the insulating film by using the patterned photoresist material, patterning the metal line layer by using the photoresist material pattern and the patterned insulating film as a mask, wherein a metal polymer is formed on the pattern insulating film, removing the photoresist material pattern, and removing the patterned insulating film by an isotropic etching process so that the metal polymer is removed together with the insulating film. Accordingly, as recited in claim 1, the metal polymer remains on the metal line until it is removed together with the insulating film.

In contrast, Liu discloses a cap layer 28 that is etched (columns 8 and 9). However, Liu does not disclose a metal polymer as recited in claim 1. Additionally, Liu fails to teach or suggest, removing the cap layer 28 as recited in claim 1. In fact, because Liu fails to teach or suggest removing the cap layer 28, the method disclosed in Liu would not be effective in the removal of metal polymer along with the insulating film, as recited in claim 1. Accordingly, Liu fails to teach, or even suggest, a method of forming a metal line layer in a semiconductor device that includes patterning the insulating film by using the patterned

photoresist material, patterning the metal line layer by using the photoresist material pattern and the patterned insulating film as a mask, wherein a metal polymer is formed on the pattern insulating film, removing the photoresist material pattern, and removing the patterned insulating film by an isotropic etching process so that the metal polymer is removed together with the insulating film, as recited in amended claim 1.

Claims 4 and 5 are believed allowable for at least the reasons presented above with respect to claim 1 by virtue of their dependence upon claim 1. Accordingly, Applicant respectfully requests reconsideration and withdrawal of this rejection.

Claim Rejections Under 35 U.S.C. § 103

Claims 2, 3, 6, 7, and 11 were rejected under 35 U.S.C. § 103(a) over Liu in view of Gutsche et al. (U.S. Patent No 6,117,353); claim 8 was rejected under 35 U.S.C. § 103(a) over Liu and Gutsche and further in view of Fujiwara et al (U.S. Patent No. 6,232,209); claim 9 was rejected under 35 U.S.C. § 103(a) over Liu, Gutsche, and Fujiwara and further in view of Keil et al. (U.S. Publication No. 2002/0173160); and claim 10 was rejected under 35 U.S.C. § 103(a) over Liu in view of Lin et al. (U.S. Patent No. 6,063,695). Applicant respectfully traverses these rejections.

Claims 2, 3, and 6-11 are believed allowable for at least the reasons presented above with respect to claim 1 by virtue of their dependence upon claim 1 and because no combination of Gutsche, Fujiwara, Keil, or Lin remedy the deficiencies of Liu discussed above with respect to claim 1. Accordingly, Applicant respectfully requests reconsideration and withdrawal of these rejections.

Conclusion

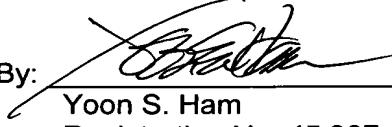
Therefore, all objections and rejections having been addressed, it is respectfully submitted that the present application is in a condition for allowance and a Notice to that effect is earnestly solicited.

Should any issues remain unresolved, the Examiner is encouraged to contact the undersigned attorney for Applicants at the telephone number indicated below in order to expeditiously resolve any remaining issues.

Respectfully submitted,

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FIG. 2B

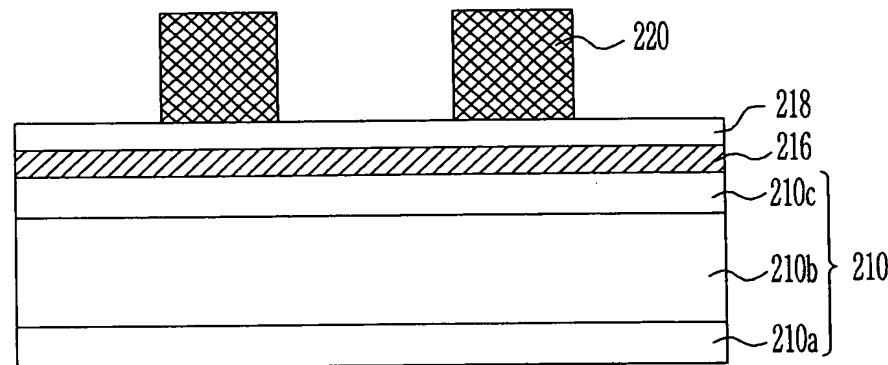


FIG. 2C

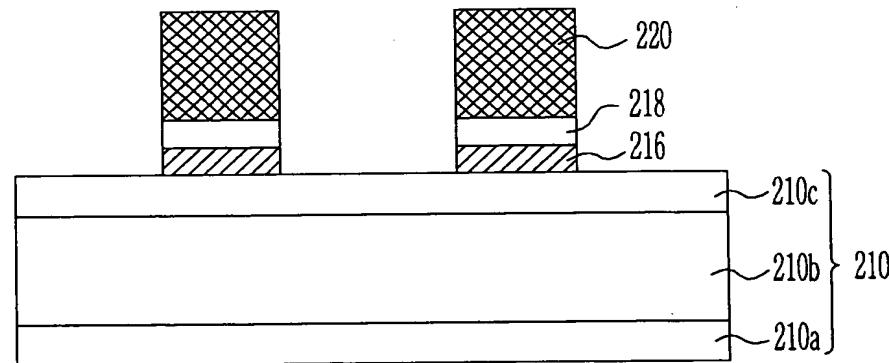


FIG. 2D

